

# Promoting recovery from effects of severe allergic reaction

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One of the life-threatening consequences of anaphylaxis, a severe allergic reaction that affects the function of multiple organ systems, is the widening of blood vessels that leads to a dramatic drop in blood pressure. New research in mice, has determined that drugs that trigger the protein S1PR2 might counteract the widening of blood vessels associated with anaphylaxis, thereby promoting recovery.

Anaphylaxis is a severe allergic reaction that is life threatening because it affects the function of multiple organ systems, including the lungs and blood vessels. Its effects on the latter cause them to widen, leading to a dramatic drop in blood pressure, a condition known as anaphylactic shock. New research in mice, performed by Ana Olivera, Juan Rivera, and colleagues, at the National Institutes of Health, Bethesda, has identified a potential new drug target to counteract the widening of blood vessels that is associated with anaphylactic shock.

The proteins SphK1 and SphK2 are involved in generating the soluble molecule S1P, which has effects on blood vessels and the [immune system](#) via a family of proteins (S1PR1-S1PR5). In the study, mice lacking SphK2 were found to recover more rapidly from anaphylaxis than normal mice while mice lacking SphK1 recovered poorly.

Treating mice lacking SphK1 with S1P dramatically improved their recovery. As these effects of S1P were found to be mediated via S1PR2, the authors suggest that drugs that trigger S1PR2 might counteract the widening of blood vessels associated with anaphylactic shock, thereby

promoting recovery.

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